UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,606	05/11/2006	Daniela Kruse	760188007	3571

42798 7590 03/07/2007

FITCH, EVEN, TABIN & FLANNERY
P. O. BOX 18415
WASHINGTON, DC 20036

EXAMINER	
RAGHU, GANAPATHIRAM	
ART UNIT	PAPER NUMBER
1652	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
31 DAYS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary for Applications Under Accelerated Examination	Application No.	Applicant(s)	
	10/566,606	KRUSE ET AL	
	Examiner	Art Unit	
	Ganapathirama Raghu	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Since this application has been granted special status under the accelerated examination program, NO extensions of time under 37 CFR 1.136(a) will be permitted and a SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE:

ONE MONTH OR THIRTY (30) DAYS, WHICHEVER IS LONGER,
FROM THE MAILING DATE OF THIS COMMUNICATION – if this is a non-final action or a *Quayle* action.
(Examiner: For **FINAL** actions, please use PTOL-326.)

The objective of the accelerated examination program is to complete the examination of an application within twelve months from the filing date of the application. Any reply must be filed electronically via EFS-Web so that the papers will be expeditiously processed and considered. If the reply is not filed electronically via EFS-Web, the final disposition of the application may occur later than twelve months from the filing of the application.

Status

1)☒ Responsive to communication(s) filed on *11 May 2006*.

2)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

3)☒ Claim(s) *39-61* is/are pending in the application.
3a) Of the above claim(s) _____ is/are withdrawn from consideration.

4)☐ Claim(s) _____ is/are allowed.

5)☐ Claim(s) _____ is/are rejected.

6)☐ Claim(s) _____ is/are objected to.

7)☒ Claim(s) *39-61* are subject to restriction and/or election requirement.

Application Papers

8)☐ The specification is objected to by the Examiner.

9)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

10)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

11)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☒ All b)☐ Some * c)☐ None of:
1.☒ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

- See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 39-61 are pending in this application.

Election of Restrictions Species

Group I: Claims 39-61, drawn to a process for the preparation of L-threonine using bacteria of the Enterobacteriaceae family wherein said bacteria contain at least one *thrA* gene or allele which codes for threononine-insensitive aspartate kinase I-homoserine dehydrogenase I or said allele is optionally overexpressed.

This application contains claims directed to more than one species of the generic invention in group I. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Wherein said bacteria further comprises gene that is attenuated:

a) phosphoenol pyruvate carboxykinase, which is coded for by the *pckA* gene;

b) phosphoglucose isomerase, which is coded for by the *pgi* gene;

c) *YtfP* gene product, which is coded for by the open reading frame *ytfP*;

d) *YjfA* gene product, which is coded for by the open reading frame *yjfA*;

e) pyruvate oxidase, which is coded for by the *poxB* gene;

f) *YjgF* gene product, which is coded for by the open reading frame *yjgF*;

Wherein at least one of the following gene that is enhanced:

g) transhydrogenase, which is coded for by the genes *pntA* and *pntB*;

h) phosphoenol pyruvate synthase, which is coded for by the *pps* gene;

i) phosphoenol pyruvate carboxylase, which is coded for by the *ppc* gene;

j) regulator *RseB*, which is coded for by the *rseB* gene;

k) galactose proton symporter, which is coded for by the *galP* gene;

l) *YedA* gene product, which is coded for by the open reading frame *yedA*;

m) carboxylase, which is coded for by the pyc gene.

Growth in the presence of:

n) at least 0.1 to 0.5 mM or at least 0.5 to 1 mM borrelidin (borrelidin resistance);

o) at least 2 to 2.5 g/1 or at least 2.5 to 3 g/1diaminosuccinic acid (diaminosuccinic acid resistance);

p) at least 30 to 40 mM or at least 40 to 50 mM α- methylserine (α-methylserine resistance);

q) not more than 30 mM or not more than 40 mM or

r) not more than 50 mM fluoropyruvic acid (fluoropyruvic acid sensitivity);

s) at least 210 mM or at least 240 mM or at least 270 mM or at least 300 mM L-glutamic acid (glutamic acid resistance);

t) a partial need for isoleucine;

u) a partial need for methionine;

v) a partial need for m-diaminopimelic acid;

w) at least 100mg/ml rifampicin (rifampicin resistance);

x) at least 15 g/l L-lysine (lysine resistance);

y) at least 15g/l methionine (methionine resistance);

z) at least 15g/l L-aspartic acid

aa) A specific combination of a-z.

Applicant is required, in reply to this action, to elect a single species i.e., one of a-aa to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The claims are deemed to correspond to the species listed above in the following manner: The following claim(s) are generic: claims 39-60 are generic.

The genes listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

The different species listed in Group I do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

An international or a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following categories:

1) A product and a process specially adapted for the manufacture of said product or

2) A product and process of use of said product; or

3) A product, a process specially adapted for the manufacture of said product and a use of said product; or

4) A process and an apparatus or means specifically adapted for carrying out the said process; or

5) A product, a process specially adapted for the manufacture of said product and an apparatus or means specifically designed for carrying out the said process.

37 CFR 1.475(c) states: If an application contains more or less than one of the combination of categories of in an invention set forth in paragraph (b) of this section, unity of invention might not be present.

37 CFR 1.475 (d) also states: If multiple products, processes of manufacture or uses are claimed, the first invention of the category first mentioned in the claims of the application and the first recited invention of each other categories related thereto will be considered as the main invention in the claims, see PCT Article 17(3)(a) 1.47(c).

37 CFR 1.475(e) further states; the determination whether a group of invention is so linked as to form a single inventive concept shall be without regard to whether the inventions are claimed in separate claims or as alternative within a single claim.

In the instant application the process claimed in claims 39-61 (Group I) not only require a Enterobacteriaceae family wherein said bacteria contain at least one *thrA* gene or allele which codes for threononine-insensitive aspartate kinase I-homoserine dehydrogenase I or optionally overexpressed but also require genes (see the above list a-m) that are additionally attenuated or enhanced that are functionally and structurally unrelated. On similar lines the claimed process not only involves the activity of said genes, but also in addition requires substrates that are functionally and structurally unrelated (see the above list n-z). Thus the technical features are not so linked to have the unity of invention.

Furthermore, the invention listed as Group I do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical features linking the inventions of Group I appears to be that they all relate to a to a process for the preparation of L-threonine using bacteria of the Enterobacteriaceae family. However, Reiping et al., (2002) disclose a process for the preparation of L-threonine using bacteria of the Enterobacteriaceae family.

Therefore the technical features linking the inventions of Group I does not constitute a special technical feature as defined by PCT Rule 13.2, as it does not define a contribution over the prior art.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathirama Raghu whose telephone number is 571-272-4533. The examiner can normally be reached on 8 am - 4.30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of the application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ganapathirama Raghu, Ph.D.
Patent Examiner
Art Unit 1652

Feb. 20, 2007.

SHERIDAN SWOPE, PH.D.
PRIMARY EXAMINER